

ABSTRACT

DYNAMIC GAIN AND CHANNEL EQUALIZERS

A beam refraction apparatus includes an input fiber carrying an input
5 beam. A wavelength dispersive element is coupled to the input fiber. The
wavelength dispersive element spreads the input beam in at least one
dimension as a function of wavelength and generates a dispersed beam. A
controllable grating reflects the dispersed beam to the wavelength dispersive
10 element and generates a recombined beam. The controllable grating
provides a controllable reflectivity as a function of wavelength. An output
fiber receives the recombined beam. A collimating optical member is
coupled to the input and output fibers. The collimating optical member
passes the input beam and the recombined beams in parallel and opposite
directions.